CITY OF NEWTON
CONTRIBUTORY RETIREMENT SYSTEM

Actuarial Valuation Report

January 1, 2008

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Report Summary:

Highlights	January 1, 2007	January 1, 2008
Contributions		
Funding Schedule FY 2009	$12,843,635	$12,843,634
Funding Schedule FY 2010	13,316,959	13,547,778
Funded Ratios		
GAS No. 25	66.1%	67.1%
Participants		
Actives	1,682	1,764
Retirees and Beneficiaries	1,143	1,143
Inactives	598	591
Disabled	156	149
Total	3,579	3,647
Payroll		
Payroll of Active Members	$74,197,265	$79,205,738
Average Payroll	44,113	44,901
Normal Cost		
Employer	2,792,077	3,063,306
Employee	5,981,441	6,457,363
Total	8,773,518	9,520,669
Actuarial Accrued Liabilities		
Actives	174,596,731	183,332,121
Retirees, Beneficiaries, Disabilities and Inactives	227,660,914	235,668,576
Total	402,257,645	419,000,697
Actuarial Value of Assets	265,700,539	281,114,591
Unfunded Actuarial Accrued Liabilities	$136,557,106	$137,886,106

Introduction

This report presents the findings of an actuarial valuation as of January 1, 2008, of Newton Contributory Retirement System.

The actuarial valuation is based on:

- Provisions Chapter 32 of the Massachusetts General Laws, "M.G.L", as of January 1, 2008.
- Employee data provided by the Retirement Board
- Asset information reported to the Public Employee Retirement Administration Commission by the City of Newton Contributory Retirement System
- Actuarial assumptions approved by the Retirement Board

The valuation and appropriation forecast are prepared in accordance with Chapter 32 of the M.G.L. as of January 1, 2008.

The valuation and forecast do not account for:

- Any subsequent changes in the law
- Chapter 32 of the M.G.L., Section 3(8)(c) transfers between systems
- State-mandated benefits
- Cost-of-living increases granted to retired members between 1982 and 1997. The cost of these benefits has been assumed by the State under Proposition Two and One-Half.

Actuarial Experience

In performing the actuarial valuation, various assumptions are made regarding such factors as mortality, retirement, disability, and withdrawal rates as well as both payroll, salary increases, and investment returns. A comparison of the current valuation and the prior valuation is made to determine how closely actual experience corresponded to anticipated occurrences. This analysis of the system provides insight into the overall quality of the actuarial assumptions and helps explain any change in the annual appropriation.

During the last year, the total unfunded actuarial accrued liability increased by 0.97% to $137,886,106. The relatively small increase is the result of net favorable actuarial experience during the preceding year. The actuarial value of assets for 2007 had a return of 8.83%. The sources of the (gain)/loss are as follows:

Investment	(2,167,358)
Salary Increases	816,117
New Participants	427,456
Active - Retirements	(506,299)
Active - Terminations	1,890
Active - Mortality	(110,176)
Active - Disabilities	794,615
Inactive - Mortality and data adjustments	2,164,944
Contribution Gain	(1,632,363)
Other	(421,647)
Total (gain)/loss	(632,821)

Actuarial Costs and Liabilities:

Normal Costs

The normal cost is the sum of the individual normal costs determined for each member as if the assumptions underlying the cost determinations had been exactly realized. An individual normal cost represents that part of the cost of a member's future benefits which are assigned to the current year as if the costs are to remain level as a percentage of the member's pay. Benefits payable under all circumstances (i.e., retirement, death, disability, and terminations) are included in this calculation. Anticipated employee contributions to be made during the year are subtracted from the total normal cost to determine employer normal cost. The total normal cost is divided by total payroll to determine the normal cost as a percent of pay. The normal cost is shown in Table I.

Table I

	January 1, 2007	January 1, 2008
Superannuation	$6,294,379	$6,855,718
Termination	1,137,040	1,241,503
Death	395,026	427,196
Disability	947,073	996,252
Total Normal Cost	8,773,518	9,520,669
% of Pay	11.8%	12.0%
Employee Contributions	5,981,441	6,457,363
% of Pay	8.1%	8.2%
Employer Normal Cost	$2,792,077	$3,063,306
% of Pay	3.8%	3.9%

Present Value of Actuarial Accrued Liabilities

The actuarial accrued liabilities (AAL) represents today's value of all benefits earned by the actives and inactives. The AAL can be compared to the assets to determine the funded status of the Plan. The value of these earned benefits is shown in Table II below.

Table II

	January 1, 2007	January 1, 2008
Actives		
Superannuations	$164,786,280	$173,364,354
Termination	(2,618,057)	(2,743,827)
Death	4,166,763	4,295,527
Disability	8,261,745	8,416,067
Retirees and Inactives		
Retirees and Beneficiaries	178,158,864	185,271,031
Terminated (Refund)	2,926,495	3,300,113
Disabled	46,575,555	47,097,432
Total	$402,257,645	$419,000,697

Present Value of Future Benefits

The present value of future benefits represents today's value of all benefits earned by the inactive participants as well as all benefits earned and expected to be earned in the coming years by the active participants. The difference betwee the present value of future benefits and the present value of actuarial accrued liabilities is the value of benefits to be earned in the coming years. The value of the total expected benefits is shown in Table III.

Table III

	January 1, 2007	January 1, 2008
Actives		
Superannuation	$219,422,841	$232,873,013
Termination	7,045,474	7,845,970
Death	7,522,023	7,929,107
Disability	17,650,879	18,328,470
Retirees and Inactives		
Retirees and Beneficiaries	178,158,864	185,271,031
Terminated (Refund)	2,926,495	3,300,113
Disabled	46,575,555	47,097,432
Total	$479,302,131	$502,645,136

Funded Status and Appropriations:

Market Value of Plan Assets

The trust fund composition on a market value basis is shown in Table IV.

Table IV

	January 1, 2007	January 1, 2008
Cash equivalents	$3,213,691	$2,755,828
Short term investments	65	0
Fixed income securities	52,787,765	0
Equities	139,559,318	0
International	36,620,803	0
Real Estate	21,229,685	13,924,762
PRIT Core Fund	0	270,587,597
Other	13,366,560	0
Accounts receivable	377,912	378,230
Accounts payable	(209,957)	(29,752)
Accrued income	0	0
Total Market Value	$266,945,842	$287,616,666
Total Actuarial Value	$265,700,539	$281,114,591

Actuarial Value of Assets

For actuarial purposes, the assets are valued using a method which reflects the market value of assets though gradual recognition of any unrealized appreciation or depreciation in assets beyond the 8% return. The following table shows the development of valuation assets:

(1)	Assets for valuation purposes, January 1, 2007	$265,700,539
(2)	Cash flow during year without regard to investment income and expenses	
	(a) Benefit payouts and refunds	($27,122,386)
	(b) City contributions	$11,577,735
	(c) Member contributions	$6,689,060
	(d) Net transfers and reimbursements	$1,154,293
	(e) Net cash flow	($7,701,297)
(3)	Expected investment income and expenses	$20,947,991
(4)	Preliminary Asset Value (1 + 2 + 3)	$278,947,233
(5)	Market value, January 1, 2008	$287,616,666
(6)	Preliminary asset value	$278,947,233
(7)	Unrecognized appreciation (5 - 6)	$8,669,432
(8)	Adjustment (7 x 25%)	$2,167,358
(9)	Adjusted asset value (4 + 8)	$281,114,591
(10)	Assets for valuation purposes, January 1, 2008 (adjusted asset value limited to 120% of market value of assets)	$281,114,591
(11)	Ratio of actuarial value to market value	97.7%
(12)	The investment rate of return for year ending, January 1, 2008 (based on the adjusted asset value)	8.83%

Unfunded Actuarial Accrued Liabilities

Under the Entry Age Normal Actuarial Cost Method, the Actuarial Accrued Liability represents what the accumulated assets would have been as of the valuation date if:

- current plan provisions and assumptions had always been in effect,
- experience conformed exactly to assumptions, and
- the normal cost had been contributed each year since inception.

The actuarial value of the Fund's assets as of the end of the prior year are subtracted from the Actuarial Accrued Liability (AAL) to determine the Unfunded Actuarial Accrued Liability (UAAL) as of the valuation date. Over time, annual pension contributions will accumulate Plan assets equal to the AAL, and the UAAL will be eliminated. Thereafter, annual contributions equal to the normal cost will keep the Plan's assets and liabilities in balance. The UAAL is developed in Table VI.

Table VI

	January 1, 2007	January 1, 2008
Actuarial Accrued Liability	$402,257,645	$419,000,697
Actuarial Assets	265,700,539	281,114,591
Unfunded Actuarial Accrued Liability	$136,557,106	$137,886,106
Funded Status	66.1%	67.1%

Appropriations

The pension appropriation for the upcoming fiscal years have been calculated in accordance with the requirements set forth in Section 22D of Chapter 32 of the Massachusetts General Laws. These amounts were calculated to comply with the June 30, 2028, full funding mandate for all accrued liabilities. The pension appropriation is the sum of the:

- Employer normal cost,
- Increasing amortization of the unfunded actuarial accrued liability by June 30, 2028
  $ 137,886,106 over 20 years with 4.5% increasing payments
- Interest adjustment for payments deposited semiannually.

The pension appropriation is shown in Table VII.

Table VII

	January 1, 2007	January 1, 2008
Normal cost	$2,792,077	$3,063,306
Amortization payment of the prior accrued liability	8,862,629	9,259,840
Total cost	$11,654,706	$12,323,146
% of Pay	15.7%	15.6%
Fiscal 2009 cost	$12,843,635	$12,843,634
Fiscal 2010 cost	$13,316,959	$13,547,778

Appropriation Forecast

The following exhibit forecasts employer and employee contributions over the next 32 years under the adopted funding schedule.

Note that the forecast is based upon an "open group" method. This method assumes that sufficient employees will be hired each year to keep the number constant. The total payroll of the system is expected to increase 4.5% per year. The employee contribution rate is expected to increase to 10.5% by 2028 as members contributing base percentages 5%, 7%, and 8% are replaced by new members, whose base contribution is 9%. Payments are assumed to be made at the beginning of the year.

The employer total cost is expected to increase during the next 20 years until the unfunded liabilities are completely paid off, at which time only the normal cost will remain. The total cost represents 16.2% of payroll, decreasing to 14.0% by the time the unfunded liabilities are fully paid off, leaving only a normal cost of 1.6% thereafter. The decrease in the cost as a percentage of payroll is a result of the increase in member deductions.

Appropriation Forecast

Fiscal Year Ending	Payroll*	Employee Contribution	Employer Normal Cost with Interest	Amortization Payments with Interest	Employer Total Cost with Interest	Employer Total Cost % of Payroll	Funded Ratio %**
2009	$79,205,738	$6,457,363	$3,244,724	$9,598,910	$12,843,634	16.2	67.1
2010	$82,769,996	$6,850,203	$3,282,423	$10,265,355	$13,547,778	16.4	68.0
2011	$86,494,646	$7,265,321	$3,316,943	$10,727,296	$14,044,239	16.2	68.9
2012	$90,386,905	$7,703,929	$3,347,924	$11,210,024	$14,557,948	16.1	69.8
2013	$94,454,316	$8,167,300	$3,374,976	$11,714,475	$15,089,451	16.0	70.9
2014	$98,704,760	$8,656,773	$3,397,683	$12,241,627	$15,639,310	15.8	71.9
2015	$103,146,474	$9,173,760	$3,415,600	$12,792,500	$16,208,100	15.7	73.1
2016	$107,788,066	$9,719,746	$3,428,249	$13,368,162	$16,796,411	15.6	74.3
2017	$112,638,529	$10,296,294	$3,435,119	$13,969,730	$17,404,849	15.5	75.6
2018	$117,707,262	$10,905,048	$3,435,666	$14,598,368	$18,034,034	15.3	77.1
2019	$123,004,089	$11,547,741	$3,429,306	$15,255,294	$18,684,600	15.2	78.6
2020	$128,539,273	$12,226,193	$3,415,416	$15,941,782	$19,357,198	15.1	80.2
2021	$134,323,540	$12,942,322	$3,393,331	$16,659,163	$20,052,494	14.9	82.0
2022	$140,368,100	$13,698,144	$3,362,343	$17,408,825	$20,771,168	14.8	83.8
2023	$146,684,664	$14,495,782	$3,321,694	$18,192,222	$21,513,916	14.7	85.8
2024	$153,285,474	$15,337,469	$3,270,579	$19,010,872	$22,281,451	14.5	87.9
2025	$160,183,320	$16,225,553	$3,208,136	$19,866,361	$23,074,497	14.4	90.1
2026	$167,391,570	$17,162,507	$3,133,451	$20,760,348	$23,893,799	14.3	92.5
2027	$174,924,191	$18,150,930	$3,045,547	$21,694,563	$24,740,110	14.1	94.9
2028	$182,795,779	$19,193,557	$2,943,387	$22,670,819	$25,614,206	14.0	97.4
2029	$191,021,589	$20,057,267	$3,075,840	$0	$3,075,840	1.6	100.0
2030	$199,617,561	$20,959,844	$3,214,253	$0	$3,214,253	1.6	100.0
2031	$208,600,351	$21,903,037	$3,358,894	$0	$3,358,894	1.6	100.0
2032	$217,987,367	$22,888,674	$3,510,044	$0	$3,510,044	1.6	100.0
2033	$227,796,798	$23,918,664	$3,667,996	$0	$3,667,996	1.6	100.0
2034	$238,047,654	$24,995,004	$3,833,056	$0	$3,833,056	1.6	100.0
2035	$248,759,799	$26,119,779	$4,005,544	$0	$4,005,544	1.6	100.0
2036	$259,953,990	$27,295,169	$4,185,793	$0	$4,185,793	1.6	100.0
2037	$271,651,919	$28,523,451	$4,374,154	$0	$4,374,154	1.6	100.0
2038	$283,876,255	$29,807,007	$4,570,991	$0	$4,570,991	1.6	100.0
2039	$296,650,687	$31,148,322	$4,776,685	$0	$4,776,685	1.6	100.0
2040	$309,999,968	$32,549,997	$4,991,636	$0	$4,991,636	1.6	100.0

* Calendar basis

** Beginning of Fiscal Year

GASB Statements No. 25 and No. 27

Effective for periods beginning after June 15, 1997, the Governmental Accounting Standards Board (GASB) requires the disclosure of pension related liabilities for public employer financial statements in accordance with Statements 25 and 27. These statements, which replace GASB Statement No. 5, must be adhered to by any public employee retirement system that follows Generally Accepted Accounting Principles (GAAP).

These disclosures are intended to establish a reporting framework that distinguishes between:

- current financial information about plan assets and financial activities,
- actuarially determined information from a long-term perspective,
- the funded status of the plan, and
- progress being made in accumulating sufficient assets to pay benefits when due.

Footnote disclosures required by GASB Statement No. 25 and 27 include a description of the plan, a summary of significant accounting policies, and information about contributions, legally required reserves, and investment concentrations. As a result of the oversight of the Public Employees Retirement Administration Commission (PERAC) and the conversion of unpaid contributions to pension related debt, the Net Pension Obligation (NPO) as required by Statement No. 27 will effectively always be equal to $0. The required disclosure information is shown in Table VIII.

Table VIII

		January 1, 2007	January 1, 2008
(1)	Actuarial Accrued Liability	$402,257,645	$419,000,697
(2)	Actuarial Value of Assets	265,700,539	281,114,591
(3)	Unfunded Actuarial Accrued Liability	136,557,106	137,886,106
(4)	Funded Ratio (2)/(1)	66.1%	67.1%
(5)	Covered Payroll	$74,197,265	$79,205,738
(6)	UAAL as a percentage of payroll: (3)/(5)	184.0%	174.1%
(7)	Annual Required Contribution (ARC)	$11,747,762	$12,843,634
(8)	Net Pension Obligation	$0	$0

PERAC Annual Statement
APPENDIX PAGE 3
ACTUARIAL VALUATION AND ASSUMPTIONS

The most recent actuarial valuation of the System was prepared by Buck Consultants as of January 1, 2008.

The normal cost for employees on that date was:	$6,457,363	8.2% of pay
The normal cost for the employer was:	3,063,306	3.9% of pay

The actuarial liability for active members was:	$183,332,121
The actuarial liability for retired members was:	235,668,576
Total actuarial accrued liability:	419,000,697
System assets as of that date:	281,114,591
Unfunded actuarial accrued liability:	$137,886,106

The ratio of system's assets to total actuarial liability was 67.1%

The principal actuarial assumptions used in the valuation are as follows:

Investment Return:	8.0%
Rate of Salary Increase:	4.75%

SCHEDULE OF FUNDING PROGRESS

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (b)	Unfunded Actuarial Accrued Liability (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a percent of Covered Payroll (b-a)/c
01/01/08	$281,114,591	$419,000,697	$137,886,106	67.1%	$79,205,738	174.1%
01/01/07	265,700,539	402,257,645	136,557,106	66.1%	74,197,265	184.0%
01/01/06	253,420,995	382,732,277	129,311,282	66.2%	71,278,135	181.4%
01/01/05	244,266,000	361,080,000	116,814,000	67.6%	69,702,000	168.0%
01/01/04	233,888,000	350,688,000	116,800,000	66.7%	68,327,000	171.0%
01/01/03	227,126,000	338,172,000	111,046,000	67.2%	64,636,000	172.0%
01/01/02	228,239,000	306,123,000	77,884,000	74.6%	61,438,000	127.0%
01/01/01	219,102,000	268,660,000	49,558,000	81.6%	60,769,000	82.0%
01/01/00	201,766,000	256,096,000	54,330,000	78.8%	54,975,000	99.0%

Attach Copy of Current Approved Funding Schedule

EXHIBITS

P:\Actrl\00084\Val2008\[ACT1.XLS]Actives

Age/Service Distribution with Salary as of January 1, 2008

Attained Age	Average Salary <5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
< 20	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
20-24	75	0	0	0	0	0	0	0	0	75
	23,072	0	0	0	0	0	0	0	0	23,072
25-29	221	19	0	0	0	0	0	0	0	240
	30,992	49,875	0	0	0	0	0	0	0	32,487
30-34	92	55	2	0	0	0	0	0	0	149
	39,436	48,269	58,556	0	0	0	0	0	0	42,953
35-39	57	60	20	1	0	0	0	0	0	138
	39,390	55,006	59,304	9,750	0	0	0	0	0	48,851
40-44	43	43	34	19	11	1	0	0	0	151
	33,194	48,342	57,515	52,858	55,178	57,410	0	0	0	47,220
45-49	57	47	30	26	44	10	0	0	0	214
	34,559	40,056	51,593	55,808	60,949	58,353	0	0	0	47,274
50-54	63	39	18	31	60	38	11	1	0	261
	36,748	38,033	46,460	60,366	60,108	68,061	65,906	37,039	0	51,574
55-59	35	51	37	28	21	25	32	20	0	249
	38,087	37,255	45,455	54,114	51,395	63,748	58,379	59,705	0	48,857
60-64	26	24	27	27	21	16	26	27	3	197
	36,896	38,523	41,394	49,379	54,069	54,203	71,128	65,844	51,986	51,373
65-69	6	11	12	8	14	7	5	0	1	64
	36,263	40,278	35,492	36,970	33,365	48,292	57,815	0	47,914	39,445
70+	0	1	4	5	5	5	0	1	5	26
	0	2,843	32,612	41,668	45,368	32,602	0	38,837	49,778	39,200
Total Employees	675	350	184	145	176	102	74	49	9	1,764
Average Salary	33,593	44,622	48,905	53,027	55,704	60,679	63,939	62,199	50,307	44,901

P:\Actrl\00084\Val2008\[RET1.XLS]Retirees

Retiree Distribution as of January 1, 2008

	Number of Employees			Total Payments		
Attained Age	Male	Female	Total	Male	Female	Total
< 20	0	0	0	0	0	0
20-24	0	0	0	0	0	0
25-29	0	0	0	0	0	0
30-34	0	1	1	0	5880	5880
35-39	0	1	1	0	7355	7355
40-44	0	1	1	0	7,722	7,722
45-49	0	3	3	0	19,945	19,945
50-54	6	6	12	149,997	70,539	220,537
55-59	32	19	51	1,018,057	282,012	1,300,070
60-64	88	53	141	2,992,768	908,087	3,900,855
65-69	94	66	160	3,105,321	937,621	4,042,942
70-74	61	97	158	1,942,186	1,687,567	3,629,753
75-79	82	94	176	1,917,519	1,315,009	3,232,527
80-84	84	133	217	1,778,893	1,620,248	3,411,323
85-89	32	110	142	499,415	1,115,361	1,614,776
90-94	12	47	59	170,080	354,931	525,011
95-99	2	19	21	4,778	149,232	154,010
Total	493	650	1143	13,579,014	8,481,509	22,060,523
Average (Age/Payment)	72.6	77.8	75.6	27,544	13,048	19,301
Frequency Percent	43.1	56.9	100	61.6	38.4	100

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Disabled Retiree Distribution as of January 1, 2008

Attained Age	Number of Employees			Total Payments		
	Male	Female	Total	Male	Female	Total
< 20	0	0	0	0	0	0
20-24	0	0	0	0	0	0
25-29	0	0	0	0	0	0
30-34	0	0	0	0	0	0
35-39	1	0	1	47,645	0	47,645
40-44	3	0	3	82,704	0	82,704
45-49	4	3	7	158,406	84,821	243,227
50-54	12	3	15	407,145	77,431	484,576
55-59	20	2	22	718,604	61,310	779,914
60-64	32	0	32	1,049,531	0	1,049,531
65-69	19	0	19	759,633	0	759,633
70-74	25	1	26	583,822	883	584,704
75-79	17	0	17	430,890	0	430,890
80-84	5	0	5	51,368	0	51,368
85-89	2	0	2	39,358	0	39,358
90-94	0	0	0	0	0	0
95-99	0	0	0	0	0	0
Total	140	9	149	4,329,107	224,444	4,553,552
Average (Age/Payment)	65.2	53.5	64.5	30,922	24,938	30,561
Frequency Percent	94	6	100	95.1	4.9	100

EXHIBIT 4 - CASHFLOW FORECAST:

The following is a 30 year forecast of benefit payments net of state reimbursable COLA payments, Contribution Income and Investment Returns.

Plan Year Ending	Benefit Payments	Employee Contributions	Employer Contributions	Investment Returns	Net change in plan assets
2008	$28,035,818	$6,457,363	$12,843,634	$22,371,262	$13,636,441
2009	29,420,967	6,850,203	13,547,778	23,223,586	14,200,600
2010	30,810,743	7,265,321	14,044,239	24,347,338	14,846,155
2011	32,205,157	7,703,929	14,557,948	25,524,737	15,581,457
2012	33,610,265	8,167,300	15,089,451	26,762,837	16,409,323
2013	34,919,336	8,656,773	15,639,310	28,073,346	17,450,093
2014	36,220,691	9,173,760	16,208,100	29,469,955	18,631,124
2015	37,451,584	9,719,746	16,796,411	30,966,474	20,031,048
2016	38,666,876	10,296,294	17,404,849	32,578,400	21,612,666
2017	39,830,863	10,905,048	18,034,034	34,321,808	23,430,026
2018	40,962,658	11,547,741	18,684,600	36,214,957	25,484,641
2019	42,046,060	12,226,193	19,357,198	38,277,622	27,814,953
2020	43,066,528	12,942,322	20,052,494	40,532,592	30,460,880
2021	43,937,513	13,698,144	20,771,168	43,008,683	33,540,482
2022	44,724,240	14,495,782	21,513,916	45,738,213	37,023,672
2023	45,321,039	15,337,469	22,281,451	48,757,804	41,055,685
2024	45,908,472	16,225,553	23,074,497	52,104,478	45,496,056
2025	46,447,350	17,162,507	23,893,799	55,812,651	50,421,606
2026	46,908,232	18,150,930	24,740,110	59,922,512	55,905,320
2027	47,329,240	19,193,557	25,614,206	64,477,450	61,955,973
2028	47,616,829	20,057,267	3,075,840	69,085,107	44,601,385
2029	47,966,884	20,959,844	3,214,253	72,714,406	48,921,619
2030	48,205,068	21,903,037	3,358,894	76,697,084	53,753,947
2031	48,295,505	22,888,674	3,510,044	81,075,668	59,178,881
2032	48,410,614	23,918,664	3,667,996	85,890,960	65,067,006
2033	48,387,616	24,995,004	3,833,056	91,186,568	71,627,012
2034	48,320,296	26,119,779	4,005,544	97,012,734	78,817,761
2035	48,210,724	27,295,169	4,185,793	103,420,021	86,690,259
2036	48,181,355	28,523,451	4,374,154	110,458,351	95,174,601
2037	49,798,496	29,807,007	4,570,991	118,115,423	102,694,925

EXHIBIT 5 – SUMMARY OF PLAN PROVISIONS:

This summary is prepared in accordance with Chapter 32 as of January 1, 2008, and does not take into account any subsequent changes.

1. Administration

Each of the 107 contributory retirement systems for public employees of the Commonwealth of Massachusetts are guided by the applicable provisions of Chapter 32 of the Massachusetts General Laws and other applicable statutes. Although these boards operate semi-independently, there is a uniform set of rules governing benefits, eligibility, contributions, financing, and accounting.

2. Participation

Participation is mandatory for all full-time employees whose employment commences prior to age 65. Eligibility with respect to part-time, professional, temporary, or intermittent employment is governed by the local board. Membership is optional for certain elected officials, State officials appointed by the Governor, and certain hospital interns.

There are four classes of membership as follows:

(i) Group 1: Most general employees in State and local government

(ii) Group 2: Certain specified hazardous duty positions

(iii) Group 3: State police officers and inspectors

(iv) Group 4: Local police officers, firefighters, and designated employees of the municipal light department.

For members in more than one group, participation will be proportional.

3. Salary

Salary is defined as gross regular compensation. Salary does not include bonuses, overtime, severance pay, unused sick leave credit, or other similar compensation.

4. Member Contributions

Member contributions vary depending upon date hired as follows:

Date of Hire	Member Contribution Rate
Prior to 1975	5.0% of Salary
1975 to 1983	7.0% of Salary
1984 to 1996	8.0% of Salary
1996 and Later plus	9.0% of Salary
1979 and Later	2.0% of Salary in excess of $30,000

5. Average Salary

Average salary is used to determine a participant's benefit. It is defined as the average salary during the three consecutive-year period that produces the highest average. (Alternatively, if a greater amount results, it is the average rate of salary earned during the period or periods, whether or not consecutive, that constitutes the last three years preceding retirement.)

6. Creditable Service

In general, creditable service is awarded during the period in which a member contributes to the retirement system.

7. Service Retirement

a. Eligibility:

For an employee to be eligible for service retirement (also referred to as superannuation), one of the following conditions must be met:

(i) completion of 20 years of service

(ii) for an employee hired prior to January 1, 1978, attainment of age 55 as an active member

(iii) for an employee hired on or after January 1, 1978, attainment of age 55 as an active member and completion of ten years of service

b. Benefit Amount:

The retirement allowance is determined as a product of the participant's Benefit Rate times Average Salary times Creditable Service, where Benefit Rate is determined from the following table:

Age at	Percentage of Average Salary		
Retirement	Group 1	Group 2	Group 4
65 or Over	.025	.025	.025
64	.024	.025	.025
63	.023	.025	.025
62	.022	.025	.025
61	.021	.025	.025
60	.020	.025	.025
59	.019	.024	.025
58	.018	.023	.025
57	.017	.022	.025
56	.016	.021	.025
55	.015	.020	.025
54	.014	.014	.024
53	.013	.013	.023
52	.012	.012	.022
51	.011	.011	.021
50	.010	.010	.020
49	.009	.009	.019
48	.008	.008	.018
47	.007	.007	.017
46	.006	.006	.016
45	.005	.005	.015
44	.004	.004	.004
43	.003	.003	.003
42	.002	.002	.002
41	.001	.001	.001

8. Deferred Vested Retirement

a. Eligibility:

A participant who has completed ten or more years of creditable service is eligible for a deferred vested retirement benefit. If termination is involuntary, the participant is vested after six years.

b. Benefit Amount:

The participant's accrued benefit is payable commencing at age 55, or may be deferred until later at the employee's option.

c. Refund of Contributions:

In lieu of the deferred pension benefit, a member may elect to receive a refund of their accumulated contributions. Members with ten or more years of service are entitled to 100% of the credited interest on their contributions. Members with five to ten years of service are entitled to 50% of the credited interest on their contributions. No credited interest is provided for members with less than five years of service.

9. Accidental Disability

a. Eligibility:

Participants are eligible for an accidental disability benefit, regardless of service or age, if they become permanently and totally incapacitated for further duty as a result of personal injury sustained while in the performance of duties.

b. Benefit Amount:

The accidental disability amount is 72% of annual salary plus $648.48 per year for each child plus an additional annuity based upon accumulated Member Contributions with credited interest.

10. Ordinary Disability

a. Eligibility:

An ordinary disability occurs when a member becomes permanently and totally disabled due to sickness or injury that is not job related. In order to be eligible for an ordinary disability benefit, a member must have ten years of service (and be less than age 55).

b. Benefit Amount:

The ordinary disability amount is equal to the accrued retirement benefit as if the member were age 55. If the member was a veteran, the benefit is 50% of the member's final rate of Salary during the preceding 12 months, plus an annuity based upon accumulated Member Contributions plus credited interest. If the participant is over age 55, he will receive not less than the superannuation allowance to which he is entitled.

11. Survivor Benefits

a. Occupational Death:

The survivors of a member who dies due to an occupational injury will be entitled to a lump sum return of contributions plus a pension benefit equal to 72% of the participant's annual Salary.

b. Non-Occupational Death:

Upon the death of a member other than due to an occupational injury, the designated beneficiary will be entitled to a retirement benefit as if Option C had been elected with a minimum of $250 per month to the surviving spouse, plus $120 for the first child, plus $90 for each additional child. If no beneficiary is designated and if the employee worked two years, and is married at least one year, the spouse may elect benefits. If there is no designated beneficiary or surviving spouse, then member contributions are returned. If there are dependent children but no surviving spouse, they may elect minimum survivor benefits of $250 per month plus $120 for the first child and $90 for each additional child.

c. Refund of Contributions:

Upon the death of a member not entitled to survivor benefits, the beneficiary is entitled to a refund of all member contributions with interest.

12. Cost-of-Living Increases

In accordance with the adoption of Chapter 17 of the Acts of 1997, the granting of a cost-of-living adjustment will be determined by an annual vote by the Retirement Board. The amount of increase will be based upon the Consumer Price Index, limited to a maximum of 3.0%, beginning on July 1. All retirees, disabled retirees, and beneficiaries who have been receiving benefits payments for at least one year as of July 1 are eligible for the adjustment. The maximum amount of pension benefit subject to a COLA is $12,000. All COLAs granted to members after 1981 and prior to July 1, 1998 are deemed to be an obligation of the State and are not the liability of the Retirement System.

13. Postretirement Death Benefits

Any benefits following the death of a member after retirement are based upon the form of benefit the participant elected at the time of retirement. There are three available forms as follows:

(i) Option A – Life annuity

(ii) Option B – Life annuity with death benefit equal to excess of member contributions plus credited interest to retirement over annuity benefit paid to member

(iii) Option C – Life annuity with 66-2/3% of benefit continued after death of member to designated joint annuitant

EXHIBIT 6 – ACTUARIAL METHODS AND ASSUMPTIONS:

The actuarial cost method, factors, and assumptions used in determining cost estimates are presented below.

1. Member Data

The member data used in the determination of cost estimates consist of pertinent information with respect to the active, inactive, retired, and disabled members of the employer as supplied by the employer to the actuary.

2. Valuation Date

January 1, 2008.

3. Actuarial Cost Method

The costs of the Plan have been determined in accordance with the individual entry age normal actuarial cost method.

4. Rate of Investment Return

It is assumed that the assets of the fund will accumulate at a compound annual rate of 8.0% per annum.

5. Salary Scale

It is assumed that salaries including longevity will increase at of 3% per year for 2008, 4% per year from 2009 to 2012. Starting in 2013 the annual increases will be 4.75% and 5.25% for groups 1 and 4, respectively.

6. Cost-of-Living Increases

Cost-of-living increases have been assumed to be 3.0% of the lesser of the pension amount and $12,000 per year.

7. Value of Investments

Assets held by the fund are valued at market value as reported by the Public Employees' Retirement Administration Commission (PERAC). Actuarial assets equal preliminary asset value plus 25% of the difference between market value and preliminary asset value. Preliminary asset value is the previous years' actuarial asset amount increased by net cash flow and expected investment income. The result must be within 20% of market value.

8. Annual Rate of Withdrawal Prior to Retirement

Based on an analysis of experience, the assumed annual rates of withdrawal may best be illustrated by the following rates at the following ages:

Service	General Employees	Police and Fire Employees
0	0.1500	0.0150
10	0.0540	0.0150
20	0.0200	0.0000
30	0.0000	0.0000

9. Annual Rate of Mortality

It is assumed that both pre-retirement and post retirement mortality are represented by the RP-2000 Mortality Table for males and females. Mortality for disabled members is represented by the RP-2000 Mortality Table set forward two years for all disabled members.

10. Service Retirement

Based on an analysis of experience, the assumed annual retirement rates are illustrated at the following ages:

Age	Male General Employees	Female General Employees	Male and Female Police and Fire Employees
50	0.0100	0.0150	0.02000
51	0.0100	0.0150	0.02000
52	0.0100	0.0200	0.02000
53	0.0100	0.0250	0.05000
54	0.0200	0.0250	0.07500
55	0.0200	0.0550	0.15000
56	0.0250	0.0650	0.10000
57	0.0250	0.0650	0.10000
58	0.0500	0.0650	0.10000
59	0.0650	0.0650	0.15000
60	0.1200	0.0500	0.20000
61	0.2000	0.1300	0.20000
62	0.3000	0.1500	0.25000
63	0.2500	0.1250	0.25000
64	0.2200	0.1800	0.30000
65	0.4000	0.1500	1.00000
66	0.2500	0.2000	1.00000
67	0.2500	0.2000	1.00000
68	0.3000	0.2500	1.00000
69	0.3000	0.2000	1.00000
70	1.0000	1.0000	1.00000

11. Annual Rate of Disability Prior to Retirement

Based on an analysis of experience, the assumed annual rates of disability may best be illustrated by the following probabilities at the following ages:

Attained Age	General Employees	Police and Fire Employees
20	0.0001	0.0010
30	0.0003	0.0030
40	0.0010	0.0030
50	0.0019	0.0125

In addition, it is assumed for the general employees that 45% of all disabilities are ordinary (55% are service connected). For police and fire employees, 10% of all disabilities are assumed to be ordinary (90% are service connected).

12. Family Composition

It is assumed that 80% of all members will be survived by a spouse and that females (males) are three years younger (older) than members.

13. Administrative Expenses

No provision is made for anticipated administrative expenses.

EXHIBIT 7 – GLOSSARY OF TERMS:

This glossary summarizes the technical terms contained in this report.

1. Actuarial Accrued Liability

That portion of the Actuarial Present Value of plan benefits that is not provided for by future employer Normal Costs or employee contributions.

2. Actuarial Assumptions

Assumptions as to the occurrence of future events affecting the Retirement System such as:

- Rates of investment returns
- Increases in a member's salary
- Inflation
- The probability of mortality, turnover, disablement
- Retirement at each age and other relevant items

3. Actuarial Cost Method

A procedure for allocating the Actuarial Present Value of pension plan benefits between Normal Cost and Actuarial Accrued Liability.

4. Actuarial Present Value

The single sum amount required at the valuation date that is required to provide for anticipated future events based upon the terms of the plan and the Actuarial Assumptions.

5. Forecast

A projection of future benefit payments or contribution requirements based upon the terms of the plan, the current asset amounts, the Actuarial Assumptions, and additional assumptions as to the replacement of terminating employees with new employees.

6. <u>Normal Cost</u>

That portion of the Actuarial Present Value of future benefits that is assigned to the current year.

7. <u>Unfunded Actuarial Accrued Liability</u>

That portion of the Actuarial Accrued Liability that is not provided for by current actuarial value of assets.

8. <u>Valuation Method</u>

The method used to divide the cost of future benefits among the Actuarial Accrued Liability, the current year's Normal Costs, and future years' Normal Costs. The resulting current funding requirement is then determined as the current year's Normal Cost plus the payment necessary to amortize the Unfunded Actuarial Liability.

9. <u>Vested Liability</u>

That portion of the Actuarial Present Value of Accrued Benefits that a member would be entitled to if the member terminated employment with the employer as of the valuation date.

CERTIFICATION:

This report fairly represents the actuarial position of the City of Newton Retirement System contributing as of January 1, 2008, in accordance with generally accepted actuarial principles applied consistently with the preceding valuation. In our opinion, the actuarial assumptions used to compute actuarial accrued liability and normal cost are reasonably related to plan experience and to reasonable expectations, and represents our best estimate of anticipated plan experience.

Buck Consultants, LLC

Daniel W. Sherman

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Daniel W. Sherman, ASA, MAAA
Enrolled Actuary No. 08-4086

May 2008

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BREAKOUTS

Breakouts

Code	Department	Participants	Payroll	Normal Cost	Amortization of Unfunded Liability	FYE 2010 Appropriation
001	M.I.S.	8	$ 578,621	$ 22,868	$ 76,123	$ 98,991
002	Personnel	8	539,696	21,330	54,039	75,369
003	Human Services	8	441,397	17,445	36,855	54,300
005	Jackson Homestead	4	185,642	7,337	8,937	16,274
006	Executive	6	545,300	21,551	50,097	71,648
007	Comptroller	5	350,270	13,843	65,110	78,953
008	Retirement	2	166,454	6,578	33,089	39,667
009	Assessing	16	1,078,874	42,639	154,529	197,168
010	Purchasing	7	346,147	13,680	19,206	32,886
011	Treasury	10	534,293	21,116	51,577	72,693
012	Law	10	815,857	32,244	116,480	148,724
013	City Clerk	7	349,050	13,795	34,994	48,789
014	Clerk of the Board	5	249,061	9,843	27,933	37,776
015	Board of Aldermen	19	185,250	7,321	23,653	30,974
016	Building (Group 1)	20	1,172,582	46,342	224,807	271,149
016	Building (Group 2 & 4)	3	154,224	7,173	21,082	28,255
017	Elections	5	295,876	11,693	38,264	49,957
018	Planning	14	851,994	33,672	77,613	111,285
018F	Community Development	14	868,523	34,325	141,260	175,585
019	Fire (Group 1)	1	55,839	2,207	4,322	6,529
019	Fire (Group 2 & 4)	184	11,272,011	524,276	1,822,338	2,346,614
019A	Fire - Civilian Personnel	5	268,886	10,627	58,858	69,485
020	Police (Group 2 & 4)	141	10,202,942	474,552	1,898,208	2,372,760

Breakouts

Code	Department	Participants	Payroll	Normal Cost	Amortization of Unfunded Liability	FYE 2010 Appropriation
020A	Police - Civilian Personnel (Group 1)	31	$ 1,583,912	$ 62,598	$ 161,650	$ 224,248
021	Police School Traffic Supervisors	17	400,969	15,847	93,034	108,881
023	Inspectional Services (Group 1)	10	650,936	25,726	73,471	99,197
023	Inspectional Services (Group 2 & 4)	2	131,436	6,113	34,680	40,793
025	Health	39	1,916,231	75,732	202,534	278,266
026	Veterans	3	196,464	7,765	35,212	42,977
027	Library	68	3,044,736	120,332	498,308	618,640
028	School Custodian	86	4,096,345	161,893	607,425	769,318
029	School Cafeteria	75	1,248,244	49,332	132,572	181,904
030	School Teacher Aides	543	14,592,756	576,722	570,332	1,147,054
031	School Clerical	120	6,410,712	253,360	816,453	1,069,813
031A	School Committee	3	14,625	578	1,979	2,557
032	Recreation	33	1,854,409	73,289	407,808	481,097
032A	Recreation - Judy Anderson	1	49,019	1,937	9,808	11,745
033	Engineering	14	983,226	38,858	134,612	173,470
034	Public Works	124	5,886,379	232,638	848,260	1,080,898
034A	Storm Water Management	5	250,745	9,912	46,352	56,264
034B	Man Highway Crew	6	239,993	9,485	1,742	11,227
035	Water/Sewer	18	986,822	39,001	84,126	123,127
035S	Sewer Personnel	25	1,113,768	44,018	173,717	217,735
035W	Water Personnel	21	947,668	37,453	151,939	189,392
036	Newton Housing Authority	18	1,097,554	43,377	139,967	183,344
	TOTAL	1,764	$ 79,205,738	$ 3,282,423	$ 10,265,355	$ 13,547,778